



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

October 24, 2003

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
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TO: Interested Parties / Applicant

RE: Speedway Gas Station 8312 091-18093-00128

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot 9/16/03

October 24, 2003

Mr. Kevin L. Lepak
Speedway Gas Station 8312
506 E. Summit Street, Suite B
Crown Point, IN 46360

Dear Mr. Lepak:

Re: Exempt Construction and Operation Status,
091-18093-00128

The application from Speedway Gas Station 8312, received on September 2, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following emission units, to be located at 3800 South Franklin Street, Michigan City, Indiana, are classified as exempt from air pollution permit requirements:

- (1) One (1) soil vapor extraction system identified as SVE-1 with twelve (12) wells, equipped with a Roots URI blower, with a maximum air flow rate of 600 cubic feet per minute.
- (2) One (1) air sparging system, with a maximum air flow rate of 90 cubic feet per minute.
- (3) One (1) catalytic oxidation system for the thermal destruction of petroleum hydrocarbons in the extracted vapors, exhausting to the atmosphere.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (2) Any change or modification that may increase the potential to emit of Volatile Organic Compounds (VOC) or a combination of hazardous air pollutants (HAPs) to 25 tons per year or greater, or that of individual HAP to 10 tons per year or greater, shall require prior approval of the Office of Air Quality.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,
Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

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cc: File - Laporte County
Laporte County Health Department
Air Compliance – Rick Massoels
Northwest Regional Office
Permit Tracking
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Speedway Gas Station 8312
Source Location:	3800 South Franklin Street, Michigan City, Indiana 46360
County:	LaPorte
SIC Code:	8999
Exemption No.:	091-18093-00128
Permit Reviewer:	Madhurima D. Moulik

The Office of Air Quality (OAQ) has reviewed an application from Speedway Gas Station # 8312 relating to the construction and operation of a stationary soil vapor extraction and air sparging facility.

Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (1) One (1) soil vapor extraction system identified as SVE-1 with twelve (12) wells, equipped with a Roots URI blower, with a maximum air flow rate of 600 cubic feet per minute.
- (2) One (1) air sparging system, with a maximum air flow rate of 90 cubic feet per minute.
- (3) One (1) catalytic oxidation system for the thermal destruction of petroleum hydrocarbons in the extracted vapors, exhausting to the atmosphere.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on September 2, 2003.

Emission Calculations

Soil Vapor Extraction System:

Soil vapor extraction system removes volatile organic compounds from soil beneath the ground surface.

The following emissions calculations are based on analysis of a representative air sample extracted at the site of contamination (supplied by source):

<u>Chemical</u>	<u>conc. in air (ppm)(submitted by source)</u>	<u>MW</u>	<u>conc. (mg/l)*</u>
1,2,4Trimethyl benz ene	0.21	120	0.001
1,3,5 Trimethylbenzene	0.11	120	0.0005
Trimethylpentane	0.27	114	0.0013
Butanone	0.058	116	0.0002

Ethyltoluene	0.049	120	0.0002
Benzene	0.32	78	0.001
Cyclohexane	0.12	78	0.0004
Ethylbenzene	0.19	106	0.0008
Heptane	0.041	100	0.0002
Hexane	0.083	86	0.0003
m & p – Xylene	0.91	106	0.004
o-xylene	0.40	106	0.002
Tetrahydrofuran	0.110	72	0.0004
Toluene	1.10	92	0.004

* Conc. (mg/l) = conc. (ppm of VOC in air) x 10^{-6} liter of VOC/liter air x Mol. Wt. (g/mole) / 24.4 liters per mole VOC
(at standard temperature and pressure) x 10^3 mg/g

Pollutant	Concentration (mg/l)	Flow Rate (cfm)	Annual VOC Emission Rate (tons/year)
1,2,4Trimethyl benzene	0.001	600	0.0098
1,3,5 Trimethylbenzene	0.0005	600	0.0049
Trimethylpentane	0.0013	600	0.0127
Butanone	0.0002	600	0.0019
Ethyltoluene	0.0002	600	0.002
Benzene	0.001	600	0.0098
Cyclohexane	0.0004	600	0.0039
Ethylbenzene	0.0008	600	0.0079
Heptane	0.0002	600	0.002
Hexane	0.0003	600	0.0029
m& p – Xylene	0.004	600	0.0393
o - Xylene	0.002	600	0.0196
Tetrahydrofuran	0.0004	600	0.0039
Toluene	0.004	600	0.039

Methodology:

VOC/HAP Emissions = concentration (mg/l) x 28.32 l/cu ft x 2.2E-06 lb/mg x flow rate(cfm) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lb

Air Sparging System

Emissions are based on results from Pilot Test conducted on sparge well.

Maximum VOC concentration = 560 ppm = 0.56 ppb = 0.002 mg/l (assuming mean MW of approximately 100)

Flow Rate = 90 cubic ft/min

VOC/HAP Emissions = concentration (mg/l) x 28.32 l/cu ft x 2.2E-06 lb/mg x flow rate(cfm) x 60 min/hr x 8760 hr/yr x 1 ton/2000 lb

PTE of VOC (tons/yr) = **0.003 tons/yr**

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit (tons/yr)
PM	Negligible
PM-10	Negligible
SO ₂	Negligible
VOC	0.16
CO	Negligible
NO _x	Negligible

HAPs	Potential to Emit (tons/yr)
Single HAP	Negligible
Total	0.16

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are less than the levels listed in 326 IAC 2-1.1-3(d)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

County Attainment Status

The source is located in LaPorte County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) LaPorte County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) applicable to this source.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in LaPorte County and the potential to emit of all pollutants are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-2 (Prevention of Significant Deterioration)

The potential to emit of all pollutants from this source are less than 250 tons per year, and it is not one of the twenty-eight (28) listed source categories. Therefore, 326 IAC 2-2 does not apply.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the soil vapor extraction and air sparging system will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – Individual Facilities

326 IAC 8-1-6 (VOC Rules: General Reduction Requirement)

The potential to emit of VOCs from the soil vapor extraction and the air sparging system are less than 25 tons per year. Therefore, 326 IAC 8-1-6 does not apply.

Conclusion

The construction and operation of the soil vapor extraction and air sparging system shall be subject to the conditions of Exemption No.: 091-18093-00128.